



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,011	12/20/2005	Ashutosh Joshi	0-05-106	9060
42009 7590 12/27/2010 KEVIN D. MCCARTHY ROACH BROWN MCCARTHY & GRUBER, P.C. 424 MAIN STREET 1920 LIBERTY BUILDING BUFFALO, NY 14202				
EXAMINER WONG, EDNA				
ART UNIT 1759		PAPER NUMBER		
MAIL DATE 12/27/2010		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/541,011

Applicant(s)

JOSHI ET AL.

Examiner

EDNA WONG

Art Unit

1759

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 5, 8, 11-16, 19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 8, 11-16, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-840)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

This is in response to the Amendment dated December 13, 2010. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Response to Arguments

Claim Rejections - 35 USC § 112

I. Claim **20** has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection of claim 20 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicants' amendment.

II. Claim **20** has been rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: between the method steps of i) to v) and the step of adding hydrogen peroxide to sea water, which sea water is intended to serve as ballast water.

The rejection of claim 20 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicants' amendment.

III. Claim 20 has been rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: between the liquid aqueous biocidal mixture containing hydrogen peroxide (H_2O_2) and the sea water.

The rejection of claim 20 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 103

I. Claims 1, 5, 8 and 11-16 have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Coury et al.** (US Patent No. 6,361,697 B1) in view of **Giamello et al.** ("Evidence of Stable Hydroxyl Radicals and Other Oxygen Radicals Species Generated by Interaction of Hydrogen Peroxide with Magnesium Oxide", *J. Phys. Chem.* (1993), Vol. 97, pp. 5735-5740).

The rejection of claims of 1, 5, 8 and 11-16 under 35 U.S.C. 103(a) as being unpatentable over Coury et al. in view of Giamello et al. is as applied in the Office Action dated the June 14, 2010 and incorporated. The rejection has been maintained for the following reasons:

Applicants state that according to Coury, there is no significance to the order of exposure of the contaminated liquid to the different reagents.

Applicants state that it was unexpected and surprising to find that the increase of

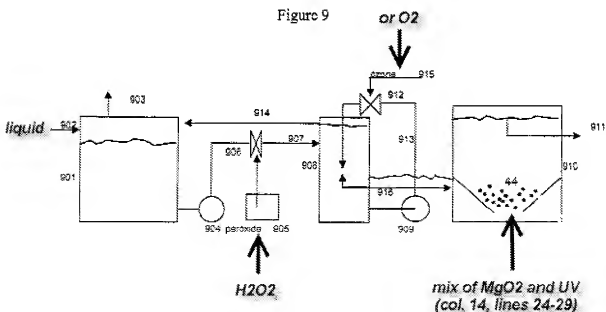
radical generation is a result of the order of treatment of the aqueous mixture:



Thus, Coury does not describe or suggest the unexpected enhancement subject of the present invention.

In response, In method claims, it is the overall method steps that are given patentable weight not the intended result thereof because the intended result does not materially alter the overall method. In method claims, the intended result is not given patentable weight when it simply expresses the intended result of a process step positively recited (MPEP § 2111.04).

Coury teaches the claimed order of treatment of the aqueous mixture:



(col. 24, line 1 to col. 25, line 22; and Fig. 9).

Thus, similar processes can reasonably be expected to yield products which inherently have the same properties. *In re Spada* 15 USPQ 2d 1655 (CAFC 1990); *In re DeBlauwe* 222 USPQ 191; *In re Wiegand* 86 USPQ 155 (CCPA 195).

A process yielding a novel and nonobvious product may nonetheless be obvious; conversely, a process yielding a well-known product may yet be non-obvious (MPEP § 2116.01).

Furthermore, the Applicants have a different reason for, or advantage resulting from doing what the prior art relied upon has suggested, it is noted that it is well settled that this is not demonstrative of nonobviousness. *In re Kronig* 190 USPQ 425, 428 (CCPA 1976); *In re Linter* 173 USPQ 560 (CCPA 1972); the prior art motivation or advantage may be different than that of Applicants while still supporting a conclusion of obviousness. *In re Wiseman* 201 USPQ 658 (CCPA 1979); *Ex parte Obiaya* 227 USPQ 58 (Bd. of App. 1985) [MPEP § 2144].

Applicants state that Giamello does not overcome the deficiencies of Coury and does not teach the significance of the order of introducing the reagents into the aqueous mixture prior to irradiation so as to unexpectedly and surprisingly increase the free radical generation, as compared to other reagent combinations, as exemplified in Figure 1.

Applicants state that the Examiner also refers to Jen et al. and Zhou et al. However, neither publication teaches the unexpected results obtained by the order of

steps in the method of the present invention.

In response, the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by the Applicants. *In re Linter* 458 F.2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990), *cert. denied*, 500 US 904 (1991) [MPEP § 2144].

II. Claim **19** has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Coury et al.** (US Patent No. 6,361,697 B1) in view of **Giamello et al.** ("Evidence of Stable Hydroxyl Radicals and Other Oxygen Radicals Species Generated by Interaction of Hydrogen Peroxide with Magnesium Oxide", *J. Phys. Chem.* (1993), Vol. 97, pp. 5735-5740) as applied to claims 1, 5, 8 and 11-16 above, and further in view of **Jen et al.** ("Determination of Hydroxyl Radicals in an Advanced Oxidation Process with Salicylic Acid Trapping and Liquid Chromatography", *J. of Chrom. A*, Vol. 796 (1998), pp. 283-288).

The rejection of claim 19 under 35 U.S.C. 103(a) as being unpatentable over Coury et al. in view of Giamello et al. as applied to claims 1, 5, 8 and 11-16 above, and further in view of Jen et al. is as applied in the Office Action dated the June 14, 2010 and incorporated. Applicants' remarks have been fully considered but they are not deemed to be persuasive. The rejection has been maintained for the reasons as

discussed above.

III. Claim **20** has been rejected under 35 U.S.C. 103(a) as being unpatentable over **Coury et al.** (US Patent No. 6,361,697 B1) in view of **Giamello et al.** ("Evidence of Stable Hydroxyl Radicals and Other Oxygen Radicals Species Generated by Interaction of Hydrogen Peroxide with Magnesium Oxide", *J. Phys. Chem.* (1993), Vol. 97, pp. 5735-5740) as applied to claims 1, 5, 8 and 11-16 above, and further in view of **Zhou et al.** ("Determination of Photochemically Produced Hydroxyl Radicals in Seawater and Freshwater", *Marine Chemistry* (1990), Vol. 30, pp. 71-88).

The rejection of claim 20 under 35 U.S.C. 103(a) as being unpatentable over Coury et al. in view of Giamello et al. as applied to claims 1, 5, 8 and 11-16 above, and further in view of Zhou et al. is as applied in the Office Action dated the June 14, 2010 and incorporated. Applicants' remarks have been fully considered but they are not deemed to be persuasive. The rejection has been maintained for the reasons as discussed above.

Response to Amendment

Claim Objections

Claim 1 is objected to because of the following informalities:

Claim 1

line 9, the word "containing" should be amended to the word -- containing --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims **5 and 19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5

line 1, "is supplied" lacks antecedent basis. See claim 1, line 6.

Claim 19

line 1, recites "The method of claim 11, comprising".

This claim language does not further limit the method of claims 11/1. It is suggested that the word -- further -- be inserted after the number "11,".

line 2, "the amount of hydroxyl radicals" lack antecedent basis.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDNA WONG whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edna Wong/
Primary Examiner
Art Unit 1759

EW
December 16, 2010